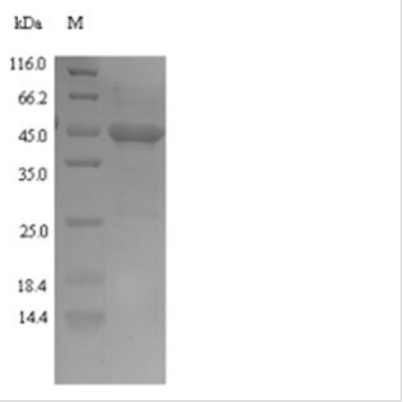
Recombinant Naja kaouthia Cobra venom factor, partial

Product Code	CSB-EP856221NAF
Relevance	Complement-activating protein in cobra venom. It is a structural and functional analog of complement component C3b, the activated form of C3. It binds factor B (CFB), which is subsequently cleaved by factor D (CFD) to form the bimolecular complex CVF/Bb. CVF/Bb is a C3/C5 convertase that cleaves both complement components C3 and C5. Structurally, it resembles the C3b degradation product C3c, which is not able to form a C3/C5 convertase. Unlike C3b/Bb, CVF/Bb is a stable complex and completely resistant to the actions of complement regulatory factors H (CFH) and I (CFI). Therefore, CVF continuously activates complement resulting in the depletion of complement activity.
Abbreviation	Recombinant Naja kaouthia Cobra venom factor protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q91132
Alias	Complement C3 homolog
Product Type	Recombinant Protein
Immunogen Species	Naja kaouthia (Monocled cobra) (Naja siamensis)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	DDNEDGFIADSDIISRSDFPKSWLWLTKDLTEEPNSQGISSKTMSFYLRDSITT WVVLAVSFTPTKGICVAEPYEIRVMKVFFIDLQMPYSVVKNEQVEIRAILHNYVN EDIYVRVELLYNPAFCSASTKGQRYRQQFPIKALSSRAVPFVIVPLEQGLHDVEI KASVQEALWSDGVRKKLKVVPEGVQKSIVTIVKLDPRAKGVGGTQLEVIKARK LDDRVPDTEIETKIIIQGDPVAQIIENSIDGSKLN
Research Area	Others
Source	E.coli
Expression Region	733-984aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	44.4kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The synthesis of Recombinant N.kaouthia CVF protein began with the isolation of CVF gene from the native genome. The next step was to amplify the CVF gene by inserting the CVF gene into an expression vector and then introducing the vector into the selected host cell, E.coli. Significant amounts of recombinant N.kaouthia CVF protein were produced by the host only when expression genes were added. For the purpose of protein purification, the vector contains N-terminal 6xHis-SUMO tag to the CVF DNA sequence. The purity of this protein is 90%+ determined by SDS-PAGE.

Cobra venom factor (CVF or CVFk), also known as Complement C3 homolog is a complement-activating protein in cobra venom. It can be cleaved into the three chains: cobra venom factor alpha chain, cobra venom factor gamma chain and cobra venom factor beta chain. A functional analog of CVF in human is complement component C3b (a active fragment of C3). Similar to C3b, CVF binds factor B, which is then cleaved by factor D, giving rise to the CVFBb complex that targets the same scissile bond in C3 as the authentic complement convertases C4bC2a and C3bBb.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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